

CLAIMS

1. A porous, corrosion resistant battery separator filter media held inside a frame for use in a lead acid Battery.
2. A lead-acid battery including a porous electrode group which comprises (a) an envelope type separator filter comprising a material made of polypropylene (PP), (b) one of a porous positive and negative electrode surrounded by said envelope and heat sealed together, (c) Both electrodes mounted into separate split plastic or polypropylene frames heat sealed together opposite each other.
3. The battery of claim 1, including any type of porous electrodes and electrolyte enveloped inside separator filter and grouped horizontally or vertically inside a battery cell.
4. A battery cell that uses a 12vdc miniature pump that draws less than 2 amps of current and produces less than one gallon per min of flow is used to move electrolyte up through enveloped porous electrode assembly.
5. The battery of claim 4, in which a side collection reservoir is mounted that holds electrolyte that flows from top of cell for circulation through pump.
6. The collection reservoir of claim 5, in which inlet flow has a check valve,
7. The collection reservoir of claim 6, in which top portion has removable Pressure release vent style cover where water and electrolyte can be added.
8. A battery outer case that holds chemical absorbent material that acts as secondary containment in case of rupture or spill to primary battery cell.
9. The outer case of claim 9, in which a access panel is mounted to service pump

10. The battery cell that uses a miniature pump of claim 4, further includes a safety switch that turns pump on and off with car ignition.
11. The outer case of claim 9, further includes a sensor that alerts when liquid is detected in secondary containment case.